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ABSTRACT

This study replicated a social skills training program previously designed to eliminate verbally aggressive behavior in six institutionalized elderly, by substituting physical acts of aggression for verbal ones. The treatment package consisted of instructions, modeling, role playing, and feedback. Dependent measures included confirmed incidents of physically aggressive behavior monitored across an ABAB design with a 5-month follow-up period. Results indicated that physically aggressive behavior could be significantly decreased in a group training setting and subsequently generalized to ward and other socialized behavior. Ancillary aspects of the study include the dichotomy between motor and language aggression, individual preferences as they relate to intentionally aggressive acts and the profound need for replication studies to ensure external validity by minimizing error variation. Implications for future research are discussed, and references are included. (Author/TE)

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DEVELOPMENT AND EVALUATION OF A SOCIAL SKILLS TRAINING PROGRAM FOR PHYSICALLY AGGRESSIVE INSTITUTIONALIZED ELDERLY

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ABSTRACT

The present investigation replicated a social skills training program previously designed to eliminate verbally aggressive behavior in a group of six institutionalized elderly, by substituting physical acts of aggression for verbal acts of aggression. The treatment package consisted of instructions, modeling, role playing and feedback. Dependent measures included confirmed incidents of physically aggressive behavior monitored across an ABAB design with a five month follow-up period. Results indicated that physically aggressive behavior can be significantly decreased in a group training setting and subsequently generalized to ward and other socialized behavior. Ancillary aspects of the study include the dichotomous relationship associated between motor and language aggression, individual preferences as they relate to intentionally aggressive acts and the profound need for replication studies to insure external validity by minimizing error variation. Implications for future research are discussed.

PHYSICALLY AGGRESSIVE ELDERLY: A SOCIAL SKILLS TRAINING PROGRAM

Researchers for the most part, have literally ignored the institutionslized aggressive elderly. The paucity of treatment approaches tailored to this population reflects this neglect (Vaccaro, 1988a). Given the current climate, the aggressive elderly are usually resistant to accepting help and hostile to those offering assistance (Patterson & Jackson, 1980; Rosberger & MacLean, 1983; Vaccaro, 1988b).

The treatment of social skills training with the institutionalized elderly has received a modicum of attention in the literature. Analysis of the research has indicated that only Lopez (1980) and Vaccaro (1990) have specifically targeted this population with patients over age 65. Most studies specify "adult elderly" however, only a small quantity of the total subject pool have actually been in this age group. These studies have been directed at improving specific social skills deficits such as eye-contact (Matson & Stephens, 1978; Senatore, Matson & Kazdin, 1982), rate of speech (Hersen, 1979; Bornstein, Back, McFall, Friman & Lyons, 1980), intonation (Schinke, 1976; Rychtarik & Bornstein, 1979; Matson & Senatore, 1981), grooming (Gibson, Lawrence, & Nelson, 1976; Foxx & McMorrow, 1983), posture (Foxx, McMorrow, Bittle, & Fenlon, 1985), criticism (Matson & Senatore, 1981; Scott, Himadi, & Keane, 1983), and confrontation

(Goldsmith & McFall, 1975; Blackman, Howe, & Pinkson, 1976; Foxx, McMorrow, Bittle, & Ness, 1986).

As a therapeutic modality, social skills training is basically aimed at increasing performance competence which can be acquired and maintained through a treatment package approach which typically consists of instructions, role playing rehearsal, modeling, performance feedback and reinforcement (Bandura, 1969; Hersen & Bellack, 1977; Kazdin, 1980; McFall, 1982; Botwinick, 1984; Masters, Burish, Hollow, & Rimm, 1987).

To date, few instances exist of group or single-subject designed studies regarding social skills training and the aggressive elderly. Considerable justification for such research is thus warranted. The purpose of the present investigation was to replicate the application of a social skills training program previously designed to eliminate verbally aggressive behavior in a group of institutionalized elderly (Vaccaro, in print), by substituting physical acts of aggression for verbal acts of aggression. Two important objectives were sought to be accomplished by replication: (a) to obtain an estimate of experimental error and (b) to determine a more precise estimate of treatment effects.

METHOD

Subjects

Subjects were 6 elderly people (4 men and 2 women) in an adult ward in a state-operated developmental center. All of the subjects were in relatively good health and had been diagnosed as schizophrenic with no recorded organic impairment. All subjects operated within the same intellectual range (average) according to the WAIS-R. All subjects were on psychotropic medication (Mellaril, Stellazine and Thorazine) for aggressive and potentially volatile behavior. Historically, medication has had a major success in institutionalized geriatric settings as a therapeutic mode for controlling inappropriate and unwanted behavior (Verwoerdt, 1981; Linn & Linn, 1983; Leber, 1983; Jenicke, 1985). However, Butler & Lewis (1986), have suggested that the medication regimen tends to "relieve" staff concerns rather than provide a truly therapeutic counsel.

At the inception of the study, the subjects' mean medication intake was 125 mg. per day (range=100-150). All three medications are relatively comparable pharmacologically per dosage unit. No change in medication took place during the study. Subjects' mean age was 68 years (range=63-73). Mean years at the present facility was 7.3 (range=7-9), and mean years of overall institutionalization was 20.8 (range=15-24).

Subect records indicated that physically aggressive behavior to both staff and peers alike were spontaneous in nature with no specific patterns of antecedent conditions. Verbally aggressive behavior would sporadically accompany the subject's physically aggressive behavior, but for the most part, the subjects were primarily known for their violent, physically acting-out behavior. All subjects had been exposed to individual psychotherapeutic programs (i.e. token economy and individual pychotherapy), all of which attempted unsuccessfuly to control their physically aggressive behavior. Subjects were motivated to participate in this study after being told that they would be granted one additional recreational or social activity of their choice per week. None of the subjects refused to participate.

Experimental Design, Data Analysis and Dependent Measures

An ABAB design was used to evaluate the efficacy of the therapeutic intervention (Barlow & Herson, 1981). Four approaches to measuring efficacy were adopted: assessment of behavior during the social skills training session, assessment of behavior outside the training session, assessment of behavior in a structured socialization setting and assessment of behavior during a follow-up period.

Physically aggressive behavior consisted of hitting, kicking, spitting and pushing. Hitting was defined as striking a blow with the hand/fist or arm; kicking was defined as striking out with the foot or feet; spitting was defined as the ejection of saliva from the mouth and pushing was defined as shoving or moving another person by exerting force. Each occurrence of the behaviors was defined as a unit of aggressive behavior and was applied whether or not the subject initiated the confrontation.

Second, an effort was made to determine whether generalization effects would occur outside the training session toward staff and peers both on the ward and in a formalized socialization setting (real life situations). Prior to the baseline condition, 8 ward staff assigned to the day (7:00am-3:00pm) and evening (3:00pm-11:00pm) shifts were trained by the experimenter in behavior recording procedures. (The night shift (11:00pm-7:00pm) was not involved in the investigation). Staff members were provided with recording sheets, and mock scenarios of physically aggressive behavior were demonstrated by the experimenter and two psychology interns (doctoral candidates) to ascertain interrater reliability. By the sixth demonstration, a computed reliability of .92 among staff had been achieved using the formula $p_o = a + d$ (Fleiss, 1981). Staff were instructed to unobtrusively record the subjects' physically aggressive behavior and enter their observations daily in a chart in the nurse's station. The absence of physically aggressive behavior was recorded as socially acceptable behavior and was inserted into the reliability measure. Exclusive of the recording process, staff members had no other role concerning the behavioral intervention and were blind to the experimental conditions.

Finally, during the middle of the study (Week 9) and at the conclusion of the study, an overall rating (a 5-point Likert scale) ranging from much improved to not improved was performed by staff, focusing on physically aggressive behaviors as they were observed on the ward and during a formalized socialization setting. These same ratings were performed by staff at the end of a 20 week follow-up period to determine if treatment effects continued to occur. In total, the baseline conditions were 3 weeks in duration, and the experimental conditions were 6 weeks in duration.

Procedure

One hour sessions, twice a week were conducted in a barren room devoid of objects of interest. Upon entering the room, all six subjects were allowed to wander about and interact with one another for a period of 10 minutes. The next 40 minutes were devoted to discussing the subjects' past weekly experiences or immediate concerns or both, with the experimenter and subjects seated in a circle. The subjects were asked to direct their attention to whomever was speaking at the time. The final 10 minutes were devoted to group parlor games. No other patients were allowed to enter the room during the sessions.

Baseline 1. The Baseline 1 condition was in effect for 3 weeks before any experimental operations were implemented. Subjects were allowed to discuss with one another any topic they chose. Freedom of expression was permissible and no attempt to diminish physically aggressive behavior was undertaken. As part of the discussion, subjects were periodically reminded as to what constituted physically aggressive behavior both in the session and on the ward. Staff members were instructed to continue treating each subject in their routine manner. Beginning with this condition and for all subsequent conditions, two psychology interns, trained by the experimenter in recording procedures, recorded all physically aggressive behavior as well as physically appropriate behavior (a socially acceptable response) by each subject toward either the experimenter or other group members, through a one-way mirror. Mean observer reliability across all subjects during this condition was .89.

Experimental Condition 1. Experimental Condition 1 was in effect for 6 weeks (Weeks 4-9). During the first 15 minutes of each session, the experimenter would describe the benefits of

appropriate physical behavior when interacting with others. Following this period, the experimenter and the two interns would engage in a series of modeling and role playing scenarios devised by the experimenter. This lasted for 20 minutes. The next 35 minutes were devoted to the subjects engaging in exactly the same scenarios in either a dyadic or group-level interaction. Those subjects not involved in the scenarios were to observe and then re-enact the same scene, adding or deleting what physically aggressive behavior they thought would be appropriate or inappropriate (reactive corrective behavior). No prompting from the experimenter or the interns was undertaken.

The overall social skills training program was as follows:

Phase 1. Instruction and rationale: The experimenter instructed the subjects as to the importance of proper physical behavior when interacting with others.

Phase 2. Modeling: The experimenter and two psychology interns would engage in a series of modeling scenarios with attention directed toward specific target behaviors illustrating how socially skilled adults could engage in positive interaction utilizing appropriate physical behavior. During this phase, the experimenter would arbitrarily stop the scenario and the subjects were asked to describe what behavior they considered to be appropriate or inappropriate.

Phase 3. Role Playing: During this phase, each subject would practice and rehearse appropriate physical behavior, first with the experimenter and then with their peers.

Phase 4. Feedback: During this phase, feedback was given after each subject had undergone a particular scenario. Positive feedback consisted of verbal praise for behavior performed correctly. Corrective feedback

consisted of a description and demonstration of any behavior performed incorrectly, and a suggestion as to what behavior would have been more appropriate at that time.

The scenarios consisted of scripts depicting real life situations frequently experienced in the institution. Each scenario contained all four target behaviors. The physical reactions of hitting, kicking, spitting and pushing (socially inappropriate behavior) were discussed during the modeling phase. Appropriate physical behavior was then substituted for inappropriate behavior during this phase i.e., walking away from the stimulus situation rather than have an encounter with another resident or staff member or, simply not react to an inappropriate verbal remark or physical gesture. During the role playing phase, only appropriate behavior was utilized. During the feedback phase, each subject was involved in a new, but similar scenario, incorporating what they had learned in the modeling and role playing phases.

After the completion of each training session, the subject's performance was assessed by the experimenter and the two interns by rating the individual's progress. A rating scale devised by the experimenter utilizing a 5-point Likert scale ranging from much improved to not improved was implemented. Mean observer reliability across all subjects during this condition was .90.

During Experimental Conditon 1, the subjects were introduced to a weekly "socialization hour" held in a large lounge area and instructed to apply what they learned in the training sessions. The "socialization hour" was an ongoing activity awarded to those patients who, singled out by staff, had performed appropriate ward behavior during the past week. Twenty to twenty-five patients usually attended this function. The social skills training sessions were deliberately held two days before

and two days after the socialization hour. Throughout this hour, the experimenter and the two interns recorded the subjects' appropriate and inappropriate behaviors. The training session following the socialization hour consisted, in part, of "scenes" witnessed by the three observers that contained inappropriate physical behavior exhibited by the subjects. These scenes were then re-enacted by the subjects originally involved, utilizing the appropriate physical behavior. This aspect of the training session was referred to as "booster training". (The structure of the socialization hour consisted of weekly themes directed by the experimenter that addressed issues usually encountered by the patient such as, institutional rules and regulations, stealing, assaultive and/or abusive behavior. Patients were then asked to discuss these issues, directing their responses to one or several of their peers thus, actively engaging in positive interaction).

Baseline 2. Baseline 2 lasted for 3 weeks (Weeks 10-12). During this condition, subjects continued to meet twice a week and attend the "socialization hour". During these sessions, the subjects followed the same procedure outlined in Baseline 1. Mean observer reliability across all subjects during this condition was .91.

Experimental Condition 2. Experimental Condition 2 lasted 6 weeks (Weeks 13-18). This phase began with the reimplementation of the training package. During Week 15, the group was informed that in 3 weeks the sessions would be ending. Following the last session, a 20 week follow-up period was established to assess the permanence of any behavioral change. During this period, group members were rewarded with two additional recreational trips or social activities per week, if after 4 consecutive, they exhibited less than three physically

aggressive behaviors per day. These trips were planned around each group member's activity of choice.

RESULTS

Table 1 displays the occurrence of physically aggressive behavior during the social skills training sessions for each subject by experimental condition. Data indicate that physically aggressive behavior began at a relatively high frequence. During Baseline 1 (3 weeks), physically aggressive behavior amounted to 149 acts across four categories (M= 37.2). Within this conditon, physically aggressive behavior was virtually continuous in every response category. In Experimental Condition 1 (6 weeks), physically aggressive behavior dropped to 29 acts (M= 7.2). The number of aggressive acts and resulting means represent combined subject responses across all conditions.

Once treatment was discontinued, during Baseline 2 (3 weeks), a frequency similar to that observed in Baseline 1 was obtained, that is, physically aggressive behavior amounted to 165 acts (M= 41.2). Reinstating the program in Experimental Condition 2 (6 weeks), revealed that physically aggressive behavior dropped to 22 acts (M= 5.5). Thus, Experimental Conditions 1 and 2 revealed a statistically significant decrease in physically aggressive behavior as a result of treatment.

Table 2 displays the frequency of physically aggressive behavior on the ward for each subject by experimental condition. Results indicate a relatively similar behavioral pattern between training session and ward behaviors for individual subjects across all four conditions.

Table 3 displays the frequency of physically aggressive behavior during the weekly "socialization hour" for each subject by experimental condition. Data indicate similar results to those found in all four experimental conditions. Thus, generalization was demonstrated from the training situation to real-life behavior. Note that every subject by every criterion improved regularly when moving from Experimental Condition 1 to Baseline 2 (see Figures 1,2 and 3).

In the middle of the study (Week 9) and on the post-experimental measure, a reliability of .87 and .90 respectively, was obtained among staff regarding the effect of the treatment on the ward as well as in the weekly "socialization hour", using the formula $p_o = a + d$. Thus, the agreement among observers affirmed the reliability of the recording procedures. Results obtained on a second questionnaire, after the follow-up, indicated a reliability of .86 among staff members.

Staff members had further indicated that all subjects had achieved a minimum of 21 additional trips or social activities each during the 20 week follow-up period as a result of their non-physically aggressive behavior. Mean number of additional trips or social activities for the group as a whole was 25.1 (range=21-29).

DISCUSSION

The results of the present investigation demonstrate the efficacy of a social skills training program designed to eliminate physically aggressive behavior in a group of institutionalized elderly patients. Dependent measures included four target behaviors monitored across all experimental conditions in an ABAB design. The diminution of physically aggressive behavior convincingly demonstrated the efficiency of a total treatment package that included integrated components of instruction, modeling, role playing and feedback.

The major concern of this study was to clarify the value of a particular treatment program as it applies to the differential properties associated with physically and verbally aggressive behavior. It is recognized that habit components of a response is nowhere more acute than in the case of aggressive behavior. It should further be understood, that although a distinction is made between expressive aggression (verbal) and motor aggression (physical), the essential element in verbal aggression is the topography of the response, wherein motor aggression, it is the noxious consequence of the act.

The literature is replete with studies veridifying the concept that intentionally aggressive acts are nothing more than formalized properties of individual preferences (Bandura, 1977; Kazdin, 1980; Botwinick, 1984; Schlundt & McFall, 1985; Conger & Conger, 1986; Masters et al., 1987). If this is true, then all aggressive acts can be considered functionally equivalent, as long as they are directed toward the achievement of a specific goal. Thus, the tendency in contemporary

theories of aggression to differentially stress specific therapeutic variables as causal agents regarding particular aggressive acts, may be a moot point, since the treatment outcome resulting from this study suggests that researchers need not take into account the variables influencing the aggressor's behavior (intentional motivation), but be more concerned with the type of intervention necessary to promote a diminution of said acts.

This study provided further evidence that the repertoire of aggressive behaviors that have been displayed by the institutionalized aggressive elderly through a variety of rewards and/or punishments over time, may be significantly reduced if the total treatment package is effective. The diverse class of behaviors that we label aggressive, be it physical or verbal, should only be considered differential behavioral forms. If we are to perceive antecedent factors of aggression as a dynamic and/or situational process, then maybe researchers should not concern themselves primarily with the correlation between antecedent conditions and an aggressive response, but consider the role of a specific treatment modality as the avenue for responsible concern. More importantly, is that since all emotional reactions have expressive components affecting behavioral elicitations, this study suggests that the outcome should be more relevant than antecedent factors.

A further significant aspect of this study concerns the relative roles played by physical and verbal aggression. It has been tauted in the literature that physical aggression is more difficult to eliminate due to its more instinctual

properties as opposed to verbal aggression which is a learned phenomenon (Kazdin, 1980; Hersen, 1979; Bandura, 1983; Botwinick, 1984; Butler & Lewis, 1986). It will be recalled that Freud postulated that instinctual impulses seek immediate motor discharge usually physical in nature. To the extent that it is meaningful to speak of discharge and the release of an instinctual aggressive impulse, the index of release whether it be verbal or physical appears only to bear significance regarding outcome effects on the other person. The substitution, for example, of motor expression for some forms of verbal expression, may be irrelevant, since the social skills training program utilized in this study did not take into account the dichotomous relationship usually associated between the two. Behaviorists and other S-R theorists have rejected the notion of aggressive impulses as innate since there is no solid evidence to support the explanation as to the origin of impulse to aggress others. The motivation to aggress others according to present behavioral notions, is an acquired motivation based upon subsequent internalizations of a behavioral set of personal standards (Twentyman & Zimering, 1979; Curran & Monti, 1982; Skinner & Vaughn,1984; Conger & Conger, 1986; Masters et al., 1987).

This study confronted the concept that the relationship between physical and verbal aggression and the desire to inflict aggressive acts upon others, need not concern itself with intrinsic nor arbitrary factors, but that the expression of aggression is but a facilitator of particular behavioral acts that can be reduced by a specific social skills training package which in essense, mofifies the external stimulus that impacted on the aggressor. Thus, we may have to move away from the concept that stimulus conditions which appear to provoke physically and verbally aggressive behavior may not be

pertinent as discriminitive cues insofar as treatment is concerned.

The fact that similar results occurred when physically aggressive acts were substituted for verbally aggressive acts is indicative of the external validity of the treatment package. Furthermore, all of the factors which had emerged from the original study such as the use of social reinforcers rather than tangible reinforcers; the use of participant modeling rather than the traditional videotape; the improvement of staff/patient relations during and post experimentation; the generalization capabilities of the subjects from the group training situation to a naturalistic setting; the significant maintainance of therapeutic gains during the follow-up period, which included a schedule for differential reinforcement of other behaviors composed of rewards for days of non-aggression (Vaccaro, 1990) were upheld as qualitative realities of the treatment.

It should also be noted that the effects of vicarious reinforcement may have been operating in addition to those of direct reinforcement. The subjects who exhibited a reduction of aggressive behavior may have served as a reinforcing model for one another. Thus, although direct and vicarious reinforcement have typically been investigated separately (Bandura, 1977; Kazdin, 1980; Curran & Monti, 1982; Conger & Conger, 1986; Masters et al., 1987), both forms of reinforcement may have been operating simultaneously in both the group setting and in the naturalistic setting of the socialization hour.

The paucity of research using social skills training with institutionalized verbally and physically aggressive elderly is notable. The results of the present study are promising enough to warrant additional research as well as suggest

the continued need for replicative studies. The fact that similar patterns of behavior affecting a particular treatm package allowed for the representation of this relatively robust phenomenon, demonstrates that the results were not circumstances favoring one set of conditions over another. What the outcome of this research produced was additional information permitting the extension and generalizability a social skills training program that went beyond the boundary conditions of the original study. Future resear may (a) examine passive aggressive behavior and/or motor agitation as a precurser for aggressive responsivity (b) examine the inclusion of emotional considerations usua depicted in organizing aggressive behavior, (c) examine te reducing consequences of emotional expression and finally (d) examine the use of non-aggressive mediating responses mitigate aggressive responses.

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Table 1

Occurrence of Physically Aggressive Behavior During The Social Skills Training Sessions For Each Subject By Experimental Condition

		Baseline 1	Exp. Cond. 1	Baseline 2	Exp. Cond. 2
Subject A	Hitting	11	3	9	2
	Kicking	10	3	9	1
	Spitting	2	1	3	0
	Pushing	5	1	4	0
	Total:	28	8	25	3
	Mean:	7.0	2.0	6.25	0.75
Subject B	Hitting	6	1	7	1
	Kicking	6	1	6	2
	Spitting	5	0	3	1
	Pushing	7	2	8	1
	Total:	24	4	24	5
	Mean:	6.0	1.0	6.0	1.25
Subject C	Hitting	9	3	10	1
	Kicking	7	2	9	0
	Spitting	5	1	7	1
	Pushing	7	1	8	1
	Total:	28	7	34	2
	Mean:	7.0	1.75	8.5	0.5
Subject D	Hitting	6	1	7	1
	Kicking	5	0	4	1
	Spitting	4	0	5	0
	Pushing	6	1	7	2
	Total:	21	2	23	4
	Mean:	5.25	0.5	5.75	1.0
Subject E	Hitting	7	2	8	1
	Kicking	8	2	12	2
	Spitting	6	1	5	1
	Pushing	8	1	10	1
	Total:	29	6	35	5
	Mean:	7.25	1.5	8.75	1.25
Subject F	Hitting	6	1	8	1
	Kicking	5	0	4	0
	Spitting	4	0	6	1
	Pushing	4	1	6	1
	Total:	19	2	24	3
	Mean:	4.75	0.5	6.0	0.75

Table 2

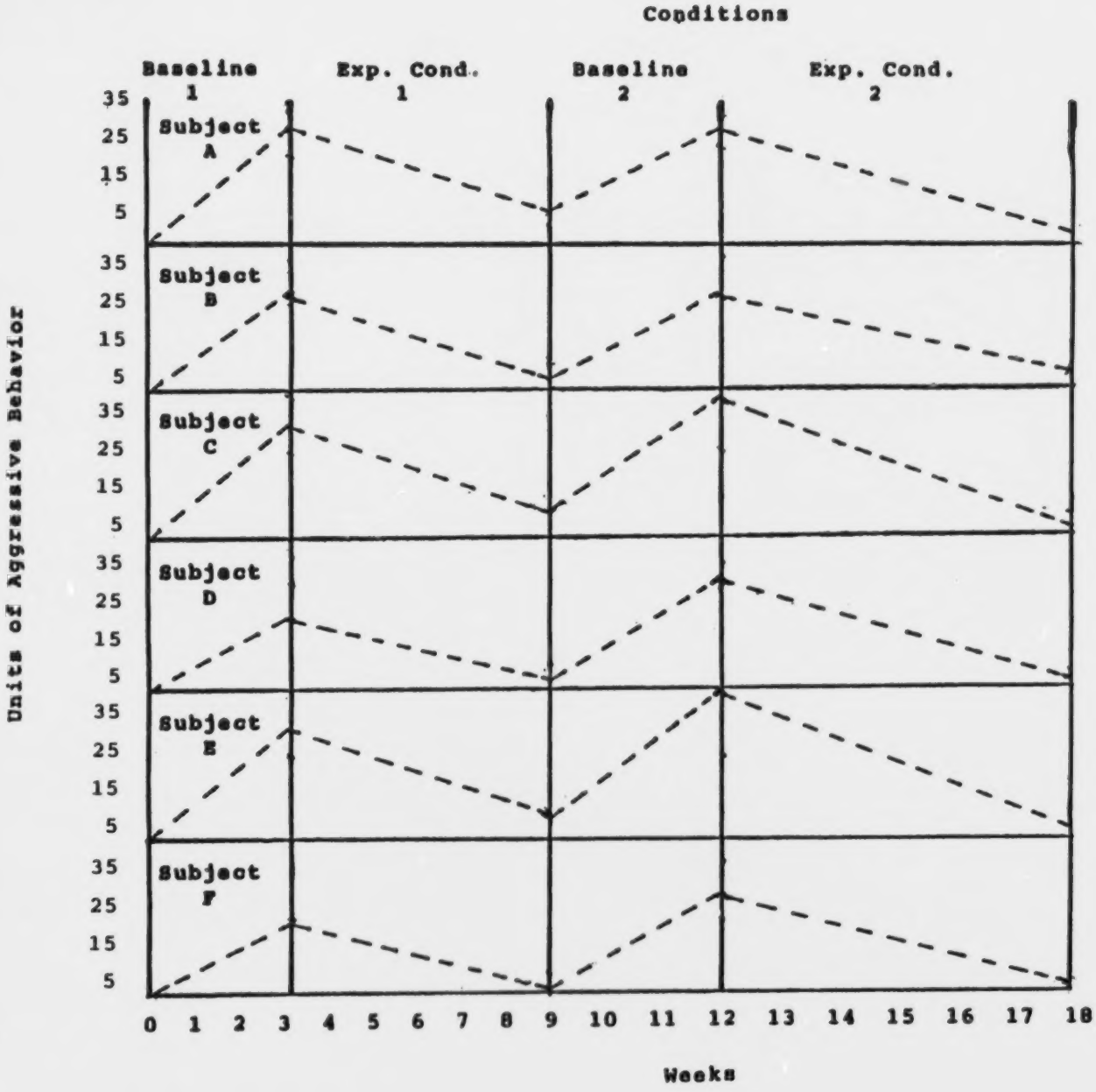
Occurrence Of Physically Aggressive Behavior On The Ward For Each Subject By Experimental Condition

		Baseline 1	Exp. Cond. 1	Baseline 2	Exp. Cond. 2
Subject A	Hitting	65	23	62	17
	Kicking	41	14	42	13
	Spitting	23	15	29	11
	Pushing	94	29	88	28
	Total:	223	81	221	69
	Mean:	55.7	20.2	55.2	17.2
Subject B	Hitting	61	19	55	18
	Kicking	47	12	41	14
	Spitting	31	11	29	12
	Pushing	99	21	86	22
	Total:	238	63	211	66
	Mean:	59.5	15.7	52.7	16.5
Subject C	Hitting	49	22	50	23
	Kicking	39	9	41	11
	Spitting	33	9	31	12
	Pushing	101	23	94	18
	Total:	222	63	216	64
	Mean:	55.5	15.7	54.0	16.0
Subject D	Hitting	67	18	59	21
	Kicking	28	13	23	15
	Spitting	19	7	22	11
	Pushing	86	12	91	8
	Total:	200	50	195	55
	Mean:	50.0	12.5	48.7	13.7
Subject E	Hitting	41	21	38	17
	Kicking	35	13	28	16
	Spitting	23	7	19	6
	Pushing	71	9	60	8
	Total:	170	50	45	47
	Mean:	42.5	12.7	36.2	11.7
Subject F	Hitting	59	18	57	17
	Kicking	38	11	39	12
	Spitting	30	10	31	11
	Pushing	88	12	78	9
	Total:	215	51	205	49
	Mean:	53.7	12.7	51.2	12.2

Table 3

Occurrence Of Physically Aggressive Behavior During The Socialization Hour For Each Subject By Experimental Condition

		Baseline 1	Exp. Cond. 1	Baseline 2	Exp. Cond. 2
Subject A	Hitting	8	2	7	2
	Kicking	7	2	7	1
	Spitting	3	1	5	1
	Pushing	6	1	6	1
	Total:	24	6	25	5
	Mean:	6.0	1.5	6.25	1.25
Subject B	Hitting	7	1	5	1
	Kicking	6	1	5	0
	Spitting	5	0	4	0
	Pushing	9	2	7	1
	Total:	27	4	21	2
	Mean:	6.75	1.0	5.25	0.5
Subject C	Hitting	6	1	7	1
	Kicking	6	0	5	0
	Spitting	5	1	6	1
	Pushing	7	1	7	1
	Total:	24	3	27	3
	Mean:	6.0	0.75	6.75	0.75
Subject D	Hitting	4	1	5	0
	Kicking	5	1	5	0
	Spitting	8	2	7	2
	Pushing	9	3	6	1
	Total:	26	7	23	3
	Mean:	6.5	1.75	5.75	0.75
Subject E	Hitting	5	1	6	0
	Kicking	6	1	7	2
	Spitting	5	1	4	0
	Pushing	8	2	8	0
	Total:	24	5	23	2
	Mean:	6.0	1.25	5.75	0.5
Subject F	Hitting	4	0	5	1
	Kicking	4	1	4	0
	Spitting	3	0	5	0
	Pushing	6	1	7	1
	Total:	17	2	21	2
	Mean:	4.25	0.5	5.25	0.5



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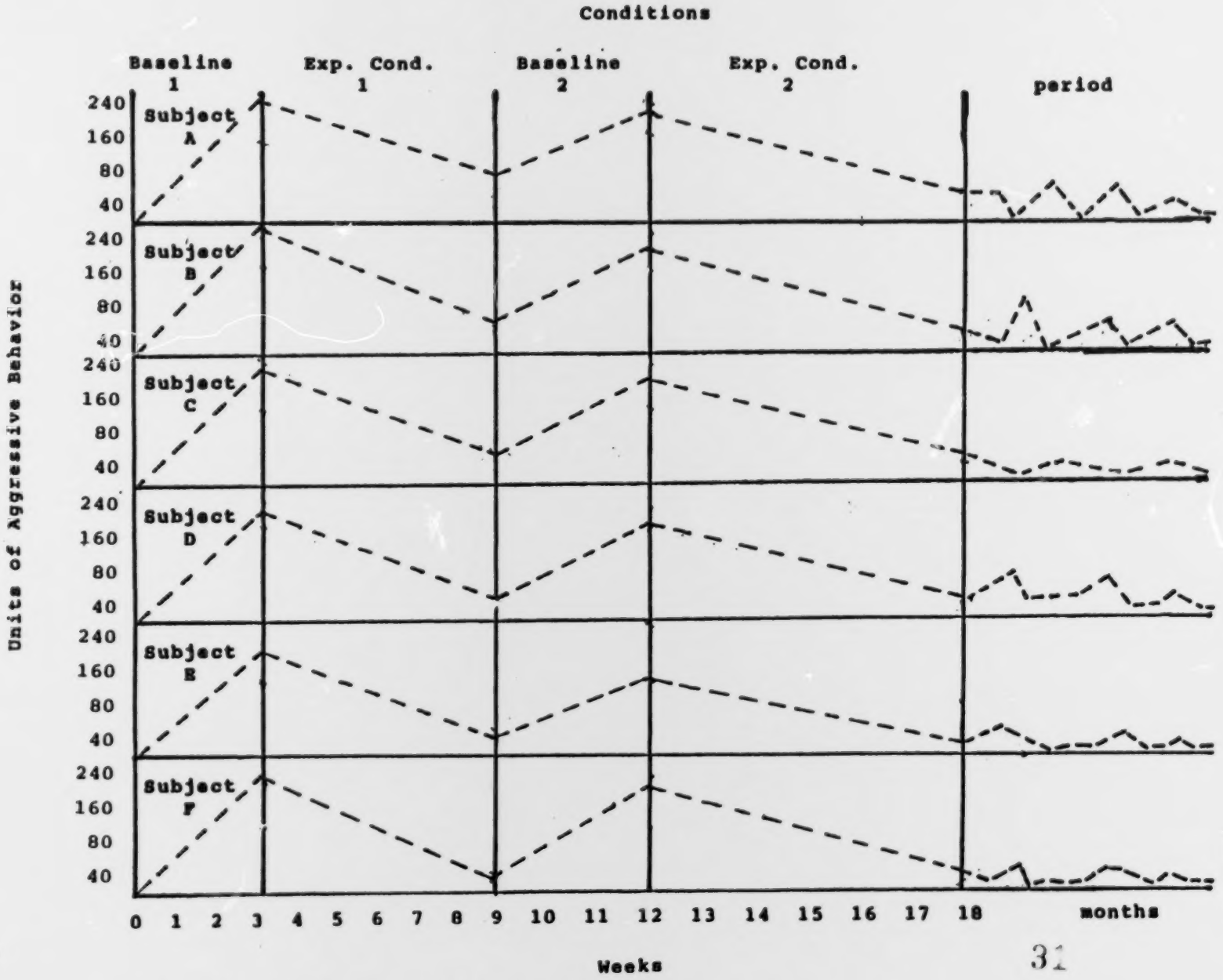
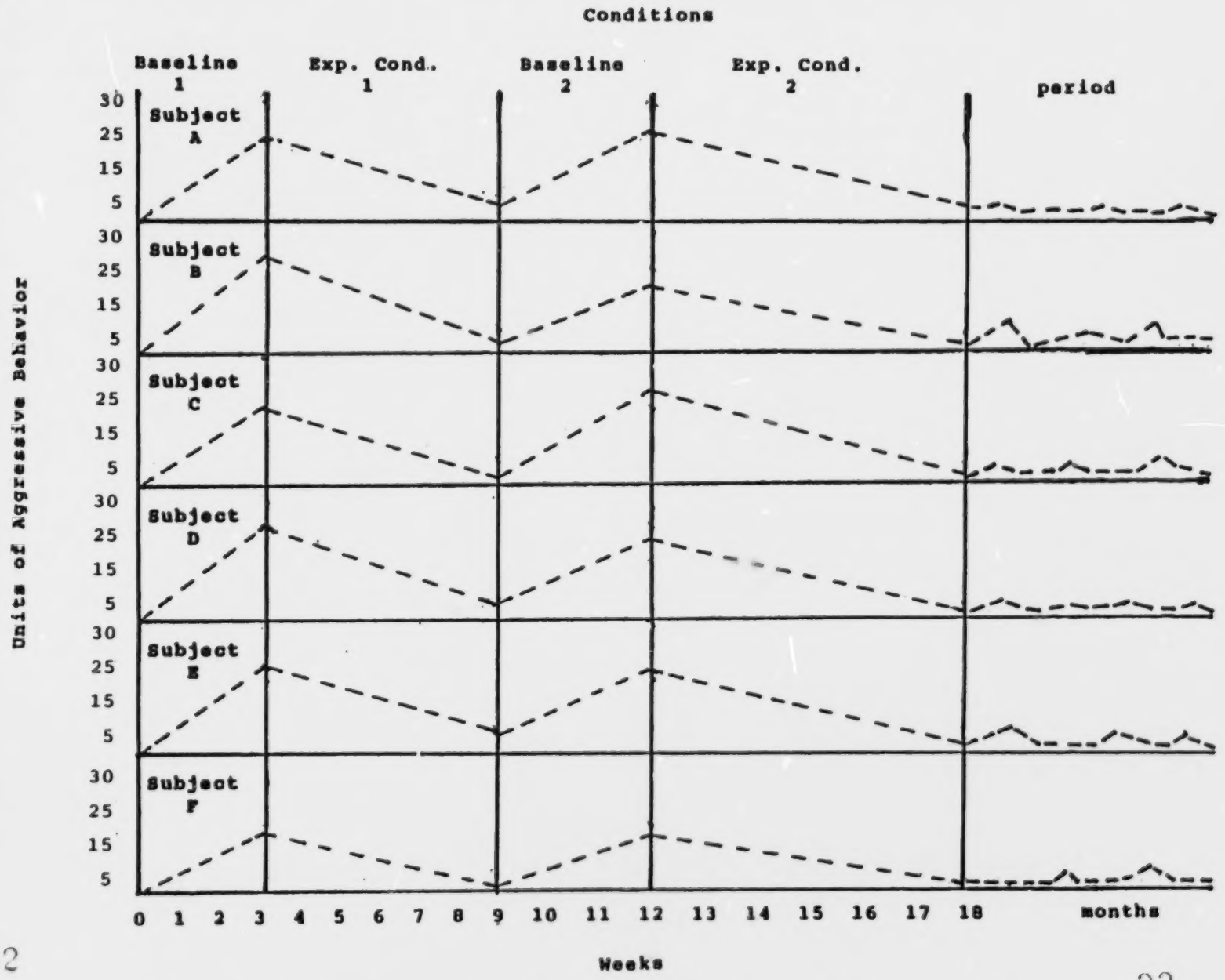
_ _ _ _ _ _Total Physically Aggressive Behavior During The Social Skills Training Sessions


Conditions
Baseline 1
Exp. Cond. 1
Baseline 2
Exp. Cond. 2
period
Subject A
Subject B
Subject C
Subject D
Subject E
Subject F
240
160
80
40
Units of Aggressive Behavior
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
months
Weeks
Total Physically Aggressive Behavior On The Ward


Conditions
Baseline 1
Exp. Cond. 1
Baseline 2
Exp. Cond. 2
period
Subject A
Subject B
Subject C
Subject D
Subject E
Subject F
30
25
15
5
Units of Aggressive Behavior
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
months
Weeks
Total Physically Aggressive Behavior During The Socialization Hour